

IN THE CLAIMS

Claims 33 and 38 have been cancelled. Claims that remain in the case are claims 29-32, 34-37, and claim 39.

29. (currently amended) A combine for harvesting a crop due, in part, to the rotation of a rotor, the combine comprising:

an engine which operates at a first rotational speed;

a variable displacement hydraulic pump driven by the engine;

a hydraulic motor driven by the pump at an increased second rotational speed,

wherein the motor drives the rotor at the second rotational speed such that when the ratio of the first and second rotational speeds is within a range of predetermined ratios, a clutch is operated at improved variability and efficiency; and

an electronic control circuit, wherein the electronic control circuit maintains a more precise selected rotor speed by regulating the speed of the motor without altering the speed of the engine, and wherein the electronic control circuit monitors the rotor speed and determines appropriate control signals to send to the variable displacement pump to maintain the selected rotor speed.

30. (unchanged) The combine of claim 29, wherein the rotor is an agricultural implement.

31. (unchanged) The combine of claim 30, wherein the rotor is a threshing rotor.

32. (unchanged) The combine of claim 29, wherein the hydraulic pump is an electronically controlled variable displacement pump.

33. Canceled.

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34. (previously amended) The combine of claim 29, wherein the variable displacement pump is controlled by changing the pump displacement.

35. (currently amended) A combine for harvesting a crop, comprising:
an engine which operates at a first rotational speed;
an electronically controlled variable displacement hydraulic pump driven by the engine;
a hydraulic motor driven by the hydraulic pump at an increased second rotational speed, wherein the motor drives the rotor at the second rotational speed such that when the ratio of the first and second rotational speeds is within a range of predetermined ratios, a clutch is operated at improved variability and efficiency;
a rotor driven by the hydraulic motor; and
a control circuit that electronically controls the rotor speed more precisely by regulating the speed of the hydraulic motor via control of the variable displacement hydraulic pump, without altering the speed of the engine, and wherein the control circuit monitors the rotor speed and determines appropriate control signals to send to the variable displacement hydraulic pump to maintain a predetermined rotor speed.

36. (unchanged) The combine of claim 35, wherein the rotor is an agricultural implement.

9 37. (unchanged) The combine of claim 36, wherein the rotor is a threshing rotor.

38. Canceled.

39. (previously amended) The combine of claim 35, wherein the variable displacement pump is controlled by changing the pump displacement.
